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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,203	08/17/2005	Stefan Beichl	5038.1004	6597

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EXAMINER

LEE, GILBERT Y

ART UNIT	PAPER NUMBER
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3673

MAIL DATE	DELIVERY MODE
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05/30/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/540,203	Applicant(s) BEICHL, STEFAN	
	Examiner Gilbert Y. Lee	Art Unit 3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-35 is/are pending in the application.
- 4a) Of the above claim(s) 24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-23 and 25-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>6/16/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 24 and 26 is withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 4/23/07. Claim 26 has been withdrawn for being dependent upon claim 24.
2. Applicant's election without traverse of Species I of Figures 1-3 in the reply filed on 4/23/07 is acknowledged.
3. Claims 22 and 23 have been rejoined to species I in light of the 112 rejection below. However, upon clarification of the 112 rejection, a second restriction may be required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 21-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the

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invention. The term "closed-type" and "open-type" brush seal is not enabled in the specification. The closest descriptions of the two types are in paragraphs [0031] and [0032] which hint that an open-type design has a fastening ring which is a single piece with the housing.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 20-23 and 25-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 20-23 and 25-35 recite "axially symmetrical components". It is unclear from the disclosure and the drawings as to what is being claimed. For the purposes of this examination, the examiner is interpreting "axially symmetrical components" to be claiming that one component is encircled by another component.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 20-23, 25, 27, and 30-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Turnquist et al. (US Patent No. 6,105,967).

Regarding claim 20, the Turnquist et al. reference discloses a sealing arrangement (Fig. 1), comprising:

at least one first sealing device (e.g. 38) including an annular seal (e.g. 44);

a second sealing device (e.g. 36) including a brush seal (e.g. 36);

wherein the first and second sealing devices are placed between axially symmetrical components (e.g. 12, 14, or 10), and the second sealing device is positioned so as to be axially offset from the first sealing device (Fig. 1); and

wherein the annular seal is a metallic piston ring seal (Fig. 1) having a separation site (Col. 4, Lines 54-66).

Regarding claim 21, the Turnquist et al. reference, as best understood, discloses the brush seal being a closed-type brush seal (Fig. 1).

Regarding claim 22, the Turnquist et al. reference, as best understood, discloses the brush seal being an open-type brush seal (Fig. 1).

Regarding claim 23, the Turnquist et al. reference, as best understood, discloses the open-type brush seal being a split ring (Col. 4, Lines 54-66).

Regarding claim 25, the Turnquist et al. reference, discloses the brush seal including a plurality of bristle elements (Col. 4, Lines 28-30).

Regarding claim 27, the Turnquist et al. reference discloses one end (e.g. upper end of element 36) of the second sealing device being positioned in a recess (e.g. recess of element 12 holding element 14) of a first one of the axially symmetrical components (Fig. 1).

Regarding claim 30, the Turnquist et al. reference discloses the bristle elements being radially preloaded such that they have a curved shape in the radial direction (Fig. 1). Note that the bristles of the Turnquist et al. reference will be preloaded because they are designed to bear against element 10.

Regarding claim 31, the Turnquist et al. reference discloses the axial direction of the axially symmetrical components, the second sealing device is directly contiguous to the first sealing device (Fig. 1).

Regarding claim 32, the Turnquist et al. reference discloses the first sealing device forming a supporting plate for the bristle elements of the second sealing device (Fig. 1).

Regarding claim 33, the Turnquist et al. reference, discloses a second one (e.g. 12) of the axially symmetrical components surrounding a first one (e.g. 10) of the axially symmetrical components.

Regarding claim 34, the Turnquist et al. reference discloses the second one of the axially symmetrical components being made up of a plurality of segments (Col. 3, Line 66 - Col. 4, Line 2).

Regarding claim 35, the Turnquist et al. reference discloses a first one (e.g. 12) of the axially symmetrical components comprising a housing of a gas turbine (Col. 3, Lines 57-61), and the second one (e.g. 14) of the axially symmetrical component includes a guide vane ring (e.g. 14) of a gas turbine having a plurality of vane segments (Col. 3, Line 66 - Col. 4, Line 2), the first sealing device and the second sealing device

being positioned between the housing and the vane segments (Fig. 1, e.g. annularly) in order to seal a gap (e.g. gap between element 14 and 10).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Turnquist et al. in view of Beichl et al. (US Pub. No. 2004/0188943 A1).

Regarding claim 28, the Turnquist et al. reference discloses the invention substantially as claimed in claim 27.

However, the Turnquist et al. reference fails to explicitly disclose the bristle element being wound around a guide element.

The Beichl et al. reference, a brush seal for a turbomachine, discloses that a brush seal can be welded (Fig. 7) or wound around a guide element (Fig. 5, 20).

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a guide element to the Turnquist et al. reference in view of the teachings of the Beichl et al. reference in order to provide a frictional variant (Beichl et al., Para. [0021]).

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Regarding claim 29, the Turnquist et al. reference, as modified in claim 28, discloses the unattached ends of the bristle elements engaging the second one (Turnquist et al., e.g. 28) of the axially symmetrical components.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gilbert Y. Lee whose telephone number is 571-272-5894. The examiner can normally be reached on 8:00 - 4:30, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia L. Engle can be reached on (571)272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

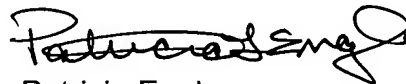
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GL
May 22, 2007

A handwritten signature in black ink, appearing to read "Patricia Engle", with a stylized flourish at the end.

Patricia Engle
Supervisory Examiner
Tech. Center 3600